Schools hedge/copse pack

TEACHER NOTES: INTRODUCTION

This pack is designed to accompany the Woodland Trust's schools hedge/copse pack and provide additional activities associated with the planting of the hedge or copse. It contains teacher notes and pupil worksheets as well as "fascinating facts" sheets for species in your pack. Where appropriate, curriculum links are provided to the QCA schemes of work for Years 4 to 6, but each give plenty of scope for adaptation. We hope that these materials help you to enthuse and inspire your pupils about the natural world.

Worksheet	Suggested time of use	Where to use	Curriculum areas
1. Twigs all look the same. Or do they?	Winter (same time as planting hedge or copse pack)	Indoors or outdoors (easier indoors)	Science
2. Exploring a hedge	First spring/summer after planting	Outdoors	Science
3. Measuring your hedge	First spring/summer after planting and ongoing	Outdoors	Science, numeracy
4. Exploring an old hedge	Any time in spring/summer	Outdoors	Science
5. Food chains	Any time	Indoors	Science
6. Wild tales	Any time	Indoors	Literacy
CRAFT IDEAS	Any time	Indoors or outdoors	Art and design

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WORKSHEET ONE:
Twigs all look the same. Or do they?

This activity is designed to be carried out in winter and therefore can be used at the same time as planting your hedge or hazel copse. It is designed to be classroom-based as it requires close observation and drawing, but it could be adapted into an observation and discussion exercise during the planting activity.

If desired, the saplings from the hedge or copse pack itself can be used for this exercise. The saplings should only be kept in the classroom for a couple of hours and then returned to a cool area if not to be planted immediately. It is important that the roots stay moist at all times.

If you received the hedge pack each species should be identified by labels, or make reference to the sketches in the accompanying "fascinating facts" sheets.

Some of the latter questions on the pupil worksheet can be used for more able children. When examining the twig it may be possible to see the marks where last year's leaves fell off. You may also be able to see tiny holes in the bark (lenticels) which allow air to move in and out of the tree's tissues.

Wild cherry

Question: Can you think why some trees might lose their leaves in winter?

Answer: The most obvious response to this question is that trees lose their leaves because it is too cold for them to grow. In fact, trees lose their leaves in winter mainly to preserve water. In winter when the ground is frozen no water can move up the tree and it effectively suffers drought. By moving into dormancy and shutting down a lot of its activity, the tree can survive through the winter. Evergreen trees normally have waxy needles which are specially designed to save water. They do have the advantage of being able to photosynthesise in warmer, sunnier days of winter.

The following website has a basic key to some winter (and leafy) twigs from native trees, which could also be used as an extension activity. As it is not entirely comprehensive it would be best to supply children with a twig that you know is included in the key.

www.saps.plantsci.cam.ac.uk/trees

QCA Curriculum links: SCIENCE

Unit 6A (Year 6): Interdependence and adaptation.

Section 4: Animals and plants in a different habitat 'Children should learn to use keys to identify animals and plants in a local habitat'

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WORKSHEET TWO:
Exploring your hedge or copse

This activity is designed for use with the newly planted hedge or copse and should be carried out when the shrubs are in leaf.

Depending on the vigour of the new shrubs it may not be too harmful for each child to pick a single leaf from the group of shrubs - otherwise suggest they work in pairs or encourage them to make their observations without picking.

Can you find out more?

The last exercise gives the the opportunity for pupils to make their own investigation into a chosen species.

The website below has a leaf key and more information about tree species.

www.saps.plantsci.cam.ac.uk/trees

Try also **www.british-trees.com**

The language used in both websites is relatively complex; making both more suited as an extension activity for older pupils.

QCA Curriculum links: SCIENCE

Unit 6A (Year 6): Interdependence and adaptation.

Section 9: Animals and plants in a different habitat 'Ask children to use secondary sources eg reference books, CDROM, photographs to find out about a specific animal and a specific plant'

elder

hawthorn

hazel

blackthorn

dogwood

holly

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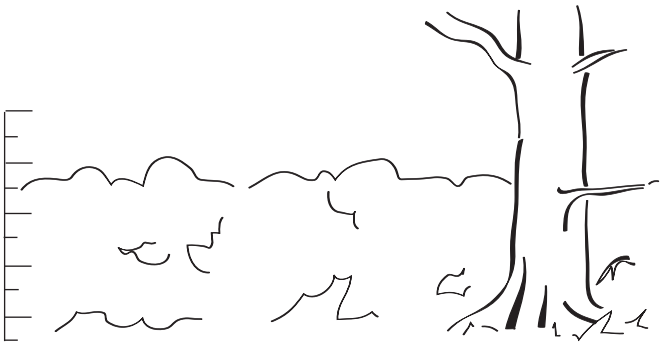
Schools hedge pack

WORKSHEET THREE:
Measuring your hedge



This sheet is designed to be usable on several repeat visits to a newly planted hedge in its first few months and years to monitor its growth and progress. It also encourages observation of any wildlife in and around the vicinity (birds, insects). If the hedge is visited two or three times over the first year, it should have grown a little between measurements, but it may be worth checking this before taking the class back for repeat visits.

According to the age/ability of the group the measuring activity can be a simple exercise where pupils perhaps begin by estimating the height of the hedge and then measuring it (with the idea of finding a "fair" representative height amidst the variation of the different shrubs).

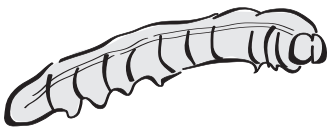
QCA Year 6 Numeracy teaching programme includes "find the mode and range of a set of data" and "begin to find the median and mean of a set of data". This would give the option for pupils to take a series of measurements across the length of the hedge and explore mode and range of the data before estimating the average height of the hedge across its length.

If pupils are measuring the hedge, they can be encouraged to work in groups and each take a different shrub species to measure. This will build up a long-term picture of the different rates of growth of the different shrubs. This information can then be pooled and explored in class according to age and ability. As well as mathematics, this information can form the basis of a scientific enquiry, as in the QCA specification opposite.

QCA Curriculum links: SCIENCE

Unit 5-6A (Year 5/6): Enquiry in environmental and technological contexts

All sections are relevant, but see especially
Section 2: Collecting and interpreting data



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WORKSHEET FOUR:

Exploring an old hedge

This activity affords an opportunity for an outdoor exercise that should inspire pupils to imagine what their planted hedge or copse will look like in a few years time. A mature hedge in the school grounds or nearby park can be used, or a suitable candidate identified during any other outdoor visit. It will be a more rewarding exercise for the children. If it contains a mixture of different shrubs.

Hedges are habitats
This section ties closely with QCA requirements. The questions ask the children to describe the habitat, predict what animals they might find, and then explore the habitat.
Places to direct them to look for animals include:

The surrounding area:
are there any birds nearby?

On leaves: any caterpillars, other insects, or even evidence of insect damage of leaves or fruit?

Under leaf litter: a good place to find many minibeasts. Ask children to replace any leaves they have overturned.

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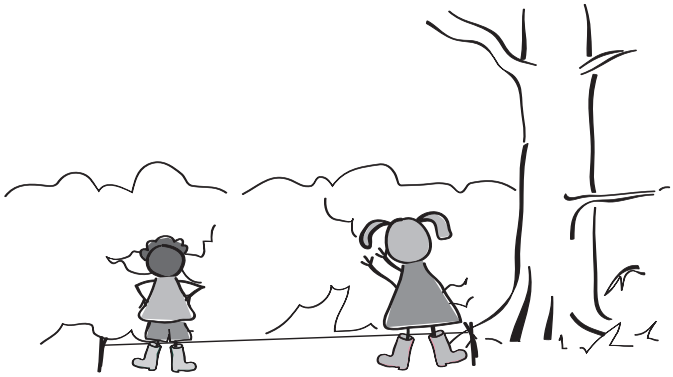


QCA Curriculum links: SCIENCE

Unit 4B (Year 4): Habitats
Section 2: Finding different habitats'Children should learn to identify different types of habitat'
Outcomes: 'Children recognise that animals and plants are found in many places.'

Section 3: Different animals in different habitats 'Children should learn that different animals are found in different habitats'; 'That animals are suited to the environment in which they are found'
Outcomes: 'Children describe a habitat in terms of its conditions'; 'State that animals and plants are found in some places and not in others and explain why'

Unit 6A (Year 6): Interdependence and adaption.

Section 9: Animals and plants in a different habitat 'Children should learn how different animals and plants are found in different habitats' and 'How animals and plants in a second habitat are suited to their environment'
Outcomes: 'Name some animals and plants found in the habitat'; 'Identify features of animals and plants which make them suited to their habitat'

Schools hedge pack

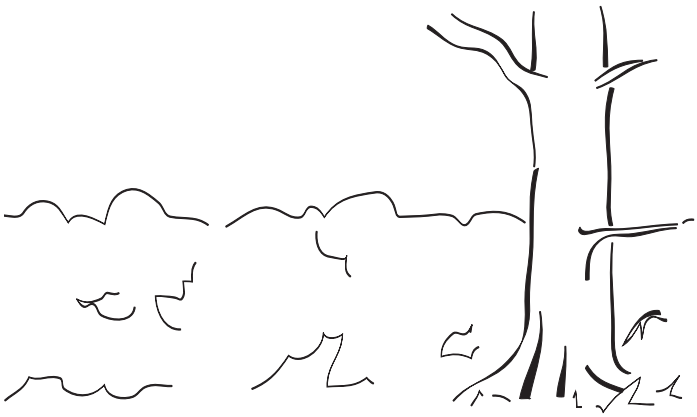
How old is the hedge?

Although hedges have been part of the landscape for many hundreds of years, they were planted in abundance during a series of enclosure acts during the eighteenth and nineteenth centuries, when the concept of common use of land was replaced with enclosed fields in private ownership.

The basis of the exercise is counting the number of species in a 30 metre stretch of hedge (estimated at about 40 pupil paces, but a long tape measure could be used if more accuracy is desired).

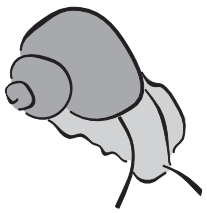
The principle that the more species found in a 30 metre stretch the older the hedge is based on the idea that new species will slowly colonise an existing hedge as birds or the wind bring in new seeds. These can grow in the base of the hedge, as they will be protected from animal grazing by the more mature shrubs.

One of the aims of this exercise is for pupils to look closely at the difference between the shrubs in the hedge. By collecting leaves, they should be encouraged to describe the difference between them. Pupils should be shown the difference between woody shrubs and herbaceous plants like grass or dandelions (woody vs soft stem).



Question: Can you think of any reasons why for some hedges, this exercise would give the wrong answer? Clue: What kind of hedges do people plant nowadays?

Answer: Clearly people are still planting new hedges, and like the material in the hedge pack, often choose to plant a mixture of species to support a range of wildlife. Encourage the children to think what would happen if someone tried to date their newly planted hedge in a few years time



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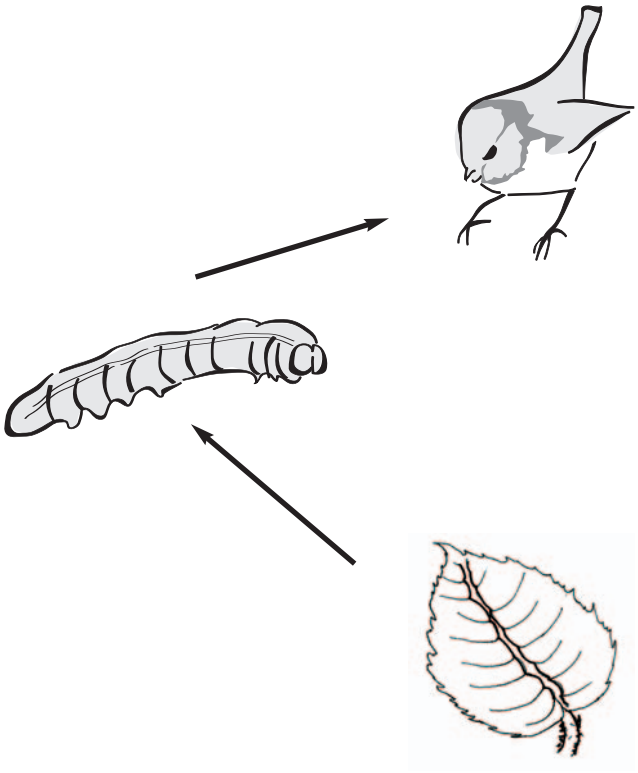
WORKSHEET FIVE:

Food chains

This exercise has been written as a direct response to teacher requests for an activity on this subject. It would be helpful if the paper-based activity could be followed by an outdoor experience, perhaps searching for wildlife in the vicinity of the newly planted hedge, or in and around a more mature hedge or group of trees.



Food chains

Green plants	caterpillar	bluetit	fox
Green plants	snail	thrush	fox
Dead leaves	worm	badger	
Acorns	squirrel	fox	

Question: Explain why you think plants are such an important part of food chains.

Answer: Pupils should describe how food chains all start with a green plant, or something that has come from a green plant like leaves or fruits.

This material gives the possibility to develop an understanding of food webs if wished, starting with the idea that animals such as foxes rely on several food sources. One additional concept that is introduced is the different parts of plants (leaves, living and dead and fruit) that may be eaten by animals.

QCA Curriculum links: SCIENCE

Unit 6A (Year 6): Interdependence and adaption.

Section 6: Food chains 'Children should learn that food chains can be used to represent feeding relationships in a habitat'; 'That food chains begin with a plant (the producer)'.

Outcomes: 'Construct a food chain; 'Explain why plants are essential to food chains'

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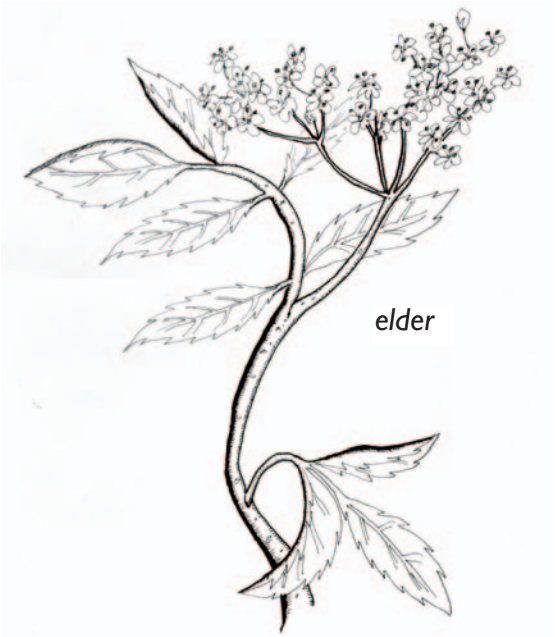
WORKSHEET SIX:

Wild tales

These folk tales are a starting point for creative writing and could form a useful literacy exercise. An alternative/extension activity is for pupils to carry out their own research about other folk tales linked to trees and woodland creatures.



CRAFT IDEAS

Potentially some of the material harvested from the hedge or copse in future years, could be used for craft activities, but in practice, using bought-in material is more realistic.

Geoff Sinclair, one of the Woodland Trust's Woodland Officers, has created a website full of craft ideas for using materials harvested from hedges or copses. Some of the projects are complex, but with adult supervision simpler ideas such as beanpole wigwam or living willow sculptures would be possible and provide an imaginative enhancement to the school grounds.

www.allotmentforestry.com
(introductory pages)

www.allotmentforestry.com/facts/facts.htm
(practical projects page)